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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,791	06/29/2001	Yutaka Kobayashi	PNDF-01068	4575
7590 11/25/2003				
McGinn & Gibb, PLLC Suite 200 8321 Old Courthouse Road Vienna, VA 22182-3817				
EXAMINER CHU, CHRIS C				
ART UNIT 2815 PAPER NUMBER				

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/893,791

Applicant(s)

KOBAYASHI, YUTAKA

Examiner

Chris C. Chu

Art Unit

2815

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

THE REPLY FILED 03 November 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.  
2. ☒ The proposed amendment(s) will not be entered because:  
(a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ they raise the issue of new matter (see Note below);  
(c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.  
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.  
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: 1, 3, 4 and 16 - 23.

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☒ The drawing correction filed on 03 November 2003 is a) ☒ approved or b) ☐ disapproved by the Examiner.  
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_  
10. ☐ Other: \_\_\_\_\_

**BRADLEY BAUMEISTER**  
**PRIMARY EXAMINER**

Continuation of 2. NOTE:

- (1) The proposed amendment to claim 1 broadens the claims by deleting the language, such as "wherein said uneven roughness exists on said bottom surface of said chip mounting substrate", which raise new issues requiring further consideration and/or search.
- (2) The proposed amendment to claim 20 narrows the claim by adding new limitations, such as "wherein said second conductive pads comprise a second uneven roughness portion in contact with said solder balls. Furthermore, in line 2 from the bottom, "said second conductive pads" lacks antecedent basis.
- (3) In response to applicant's arguments against claim 4, applicant should note that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus, Kweon does not teach away from being combined with Takada. Therefore, one of ordinary skill in the art would have combined the above references. Furthermore, any lead frame includes inner terminals, external terminals, coating layers, etc. As explained in the above sentence, the external terminal (50) of Takada is a part of a lead frame, thus the external terminal (50) is a lead frame. Even further, the layers 55 and 56 of Takada are coating materials or protection layers of the lead frame. In other words, the layers 55 and 56 are part of the lead frame, too. Therefore, Takada clearly teaches in Fig. 3B a surface roughness existing on the contact projection (22 and 23) and the bottom surface of the lead frame as recited in claim 4.
- Therefore, a combined structure of Kweon and Takada discloses the following limitation "a printed circuit board including conductive pads which are formed thereon and brought into direct contact with a bottom surface of the lead frame, and an uneven roughness exists on the bottom surface of the lead frame and the surface of the conductive pad as recited in rejected claim 4 (see paragraph 8 of the final Office action for detail).
- For the above reasons, the rejection is maintained.